



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/750,580

12/29/2003

Robert E. Higashi

H0004490 (1100.1226101)

8588

128

7590

10/05/2006

HONEYWELL INTERNATIONAL INC.

101 COLUMBIA ROAD

P O BOX 2245

MORRISTOWN, NJ 07962-2245

EXAMINER

NGUYEN, THINH T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/750,580

Applicant(s)

HIGASHI ET AL.

Examiner

Thinh T. Nguyen

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 26-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

1. in response to Applicant amendment on 9/22/2006 the Office Action issued on 8/2/2006 is withdrawn
2. Claims 1-9 and 26-51 are pending in the Application.
3. Applicant's election of claims 1-9 for prosecution without traverse in the communication with the Office on 11/23/2005 is acknowledged.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this office action.

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wood et al. (U.S. Patent 6,036,872).

With regard to claim 1 wood discloses (in the abstract, in fig 1a, 1b) an integrated package comprising: a first wafer (fig 1b reference 14) having a first surface; a second wafer (fig 1b reference 13) having a first surface bonded at a first perimeter (fig 1a reference 15) to the first surface of the first wafer; and a recess formed (fig 1b reference 18) in the first surface of the first wafer in a second perimeter (fig 1a, reference 17) situated within the first perimeter for a window situated within the second perimeter.

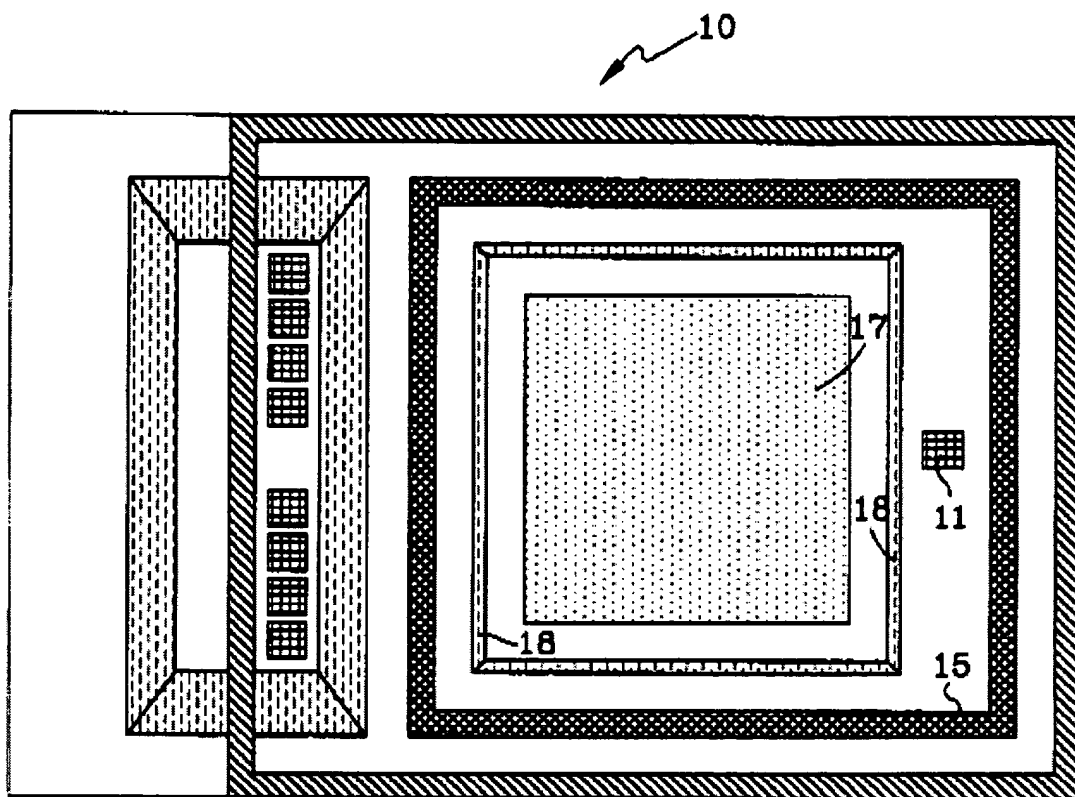


Fig. 1a

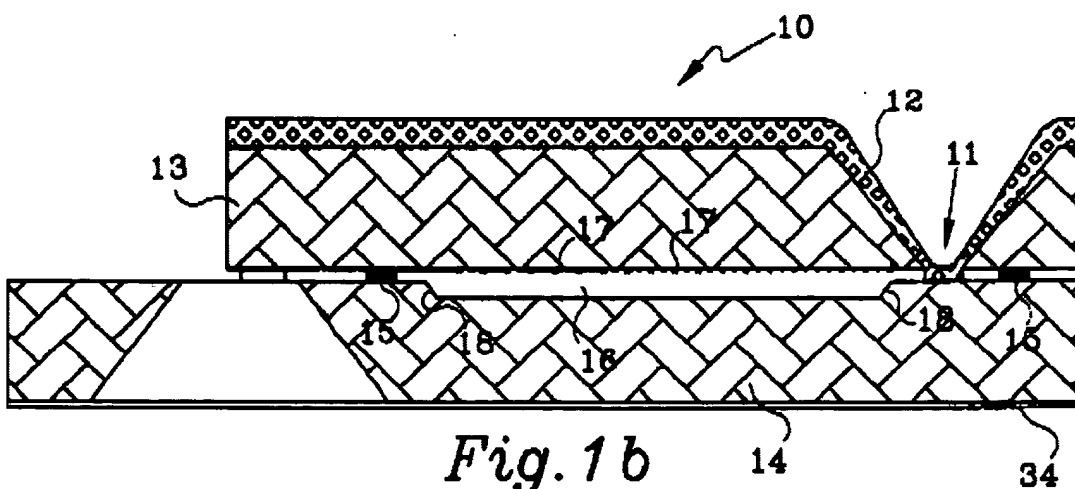


Fig. 1b

Claim Rejections - 35 USC § 103

6. The following is a quotation of U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. (U.S. Patent 6,036,872) in view of Higashi (US patent 5,895,233) and in further view of Banish et al (US patent Application Publication US 2002/0135869)

With regard to claim 2 and 3, as set forth in the rejection of claim 1, Wood discloses all the invention except for a first bump pattern (first antireflective coating) in the first surface of the first wafer within the second perimeter. And a second bump pattern (second antireflective coating) on a second surface of the first wafer.

Higashi 233, however, disclose a package with antireflective coating on both surface of the first wafer (fig 3 layer 13 and 14)

It would have been obvious to one of ordinary skill in the art the time the invention was made to combine the disclosure by Wood and Higashi 233 and come up with a device named Wood in view of Higashi with the rationale that both Wood and Higashi are in the same field of endeavor of making encapsulated vacuum micro-package.

Art Unit: 2818

Furthermore, with regard to claim 2 and 3 , as set forth above, the device named Wood in view of Higashi discloses all the invention except for the antireflective pattern is made under the form of Bump.. Banish, however, in paragraph [0049],[0062],in fig 2 in the abstract , in claim 6 discloses bump pattern that can be use as antireflective pattern.

It would have been obvious to one of ordinary skill in the art the time the invention was made to complement the Disclosure by Wood and Higashi 233 with the disclosure by Banish and come up with the invention of claim 2,3 .

The rationale is as the following:

A person skilled in the art at the time the invention was made would have been motivated to improve the Wood in view of Higashi 233 device using the teachings by Banish to make it get superior transmission values and cheap manufacturing cost as suggested by Banish et al. (in the abstract, in paragraph [0044])

With regard to claim 4, Wood discloses a seal (fig 1b reference 15 ,column 2 lines 14-15) between the first and the second wafer. The rational why claim 4 is obvious over Wood et al in view of Higashi and in further view of Banish et al, has been set forth above.

ALLOWABLE SUBJECT MATTER

8. Claims 5-9 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim.

Claims 5-9 are considered allowable since the prior fails to show using a seal with a spacer and a bondable material.

9. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

10. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

CONCLUSION

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:30am-6: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached at 571-272-1907.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications

Art Unit: 2818

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T. Nguyen

A handwritten signature in black ink, appearing to read 'Thinh T. Nguyen', is written over a horizontal line.

Art Unit 2818